

ENTERASYS
NETWORKS™



Element Manager

GatorMIM and Gator Star User's Guide

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Chapter 1 Introduction

| | |
|--|-----|
| Using the GatorMIM CS/GatorStar GX-M User's Guide..... | 1-2 |
| Related Manuals..... | 1-2 |
| Software Conventions | 1-3 |
| Using the Mouse | 1-3 |
| Common Gator Module Window Fields..... | 1-4 |
| Using Window Buttons..... | 1-5 |
| Getting Help | 1-5 |
| Using On-Line Help | 1-5 |
| Accessing On-line Documentation..... | 1-6 |
| Getting Help from the Global Technical Assistance Center | 1-6 |

Chapter 2 The Gator Module View

| | |
|--|------|
| Viewing Device Information | 2-2 |
| Front Panel Information..... | 2-3 |
| Menu Structure..... | 2-4 |
| Gator Module Port Status Display | 2-6 |
| The Chassis Manager Window | 2-6 |
| Viewing Hardware Types | 2-7 |
| Viewing the Device Type | 2-7 |
| Viewing the Module Type | 2-7 |
| Viewing the Port Type..... | 2-8 |
| Viewing I/F Summary Information..... | 2-8 |
| Interface Performance Statistics/Bar Graphs..... | 2-9 |
| Viewing Interface Detail | 2-11 |
| Making Sense of Detail Statistics..... | 2-13 |
| Enabling and Disabling Ports..... | 2-14 |

Chapter 3 LocalTalk and GatorStar Statistics

| | |
|---------------------------------------|-----|
| Viewing LocalTalk Statistics | 3-1 |
| Gator Total Repeater Statistics | 3-3 |

Index

Introduction

How to use this guide; related guides; software conventions; getting help

Welcome to the ***GatorMIM CS and GatorStar GX-M User's Guide***. We have designed this guide to serve as a reference for using NetSight Element Manager for the GatorMIM CS and the GatorStar GX-M.

The GatorMIM CS and GatorStar GX-M are LocalTalk to Ethernet routers—based on Cayman Systems' GatorBOX-CS technology—which are integrated for use in the MMAC series of intelligent hubs.

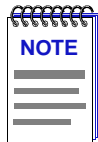
The GatorMIM CS is a LocalTalk router module for the MMAC hub, providing routing connectivity between LocalTalk and Ethernet topologies with AppleTalk and DECnet routing capabilities, with no configuration required.

The GatorStar GX-M is a single module designed to plug into the MMAC hub, providing plug-and-play routing between LocalTalk and Ethernet networks, with no configuration required. It integrates the LocalTalk-Ethernet gateway with the 24-port LocalTalk SmartRepeater. GatorStar GX-M's SmartRepeater technology provides automatic detection and correction of "jabbering" on LocalTalk ports, and determines the location of individual nodes for each port, allowing network management and mapping programs to determine the location and traffic of every node on your LocalTalk network.

Both the GatorStar GX-M and the GatorMIM CS support LocalTalk Statistics and the SNMP System Group. The GatorStar also supports GatorStar Statistics. The GatorStar GX-M can support up to 96 users; the GatorMim CS up to 32 users.

Using the GatorMIM CS/GatorStar GX-M User's Guide

Each chapter in this guide describes one major functionality or a collection of several smaller functionalities of the GatorMIM CS and the GatorStar GX-M. This guide contains information about software functions which are accessed directly from the device icon.



The GatorStar GX-M and the GatorMIM CS will be jointly referred to as the Gator Module throughout much of this manual. Where there are differences, each device will be named separately, as necessary.

Chapter 1, **Introduction**, provides a list of related documentation, describes certain software conventions, and shows you how to contact the Global Technical Assistance Center.

Chapter 2, **The Gator Module View**, describes the visual display of the Gator module in the chassis and explains how to use the mouse within the Chassis View.

Chapter 3, **LocalTalk and GatorStar Statistics**, describes both the LocalTalk and Gator Total Repeater Statistics windows, and defines the various packets and errors forwarded across the GatorMIM CS and GatorStar GX-M as well as the total repeater statistics counted by the GatorStar GX-M.

Related Manuals

The ***GatorMIM and GatorStar User's Guide*** is only part of a complete document set designed to provide comprehensive information about the features available to you through NetSight Element Manager. Other guides which include important information related to managing the Gator Module are as follows:

User's Guide

Tools Guide

Remote Administration Tools User's Guide

Alarm and Event Handling User's Guide

For more information about the capabilities of the Gator Module, consult the appropriate hardware documentation.

Software Conventions

Your NetSight Element Manager's device user interface contains a number of elements common to most windows and which operate the same regardless of the window in which they appear. A brief description of some of the most common elements appears below. The information provided here is not repeated in the descriptions of specific windows and/or functions.

Using the Mouse

This document assumes you are using a Windows-compatible mouse with two buttons; if you are using a three button mouse, you should ignore the operation of the middle button when following procedures in this document. Procedures within the NetSight Element Manager document set refer to these buttons as follows:

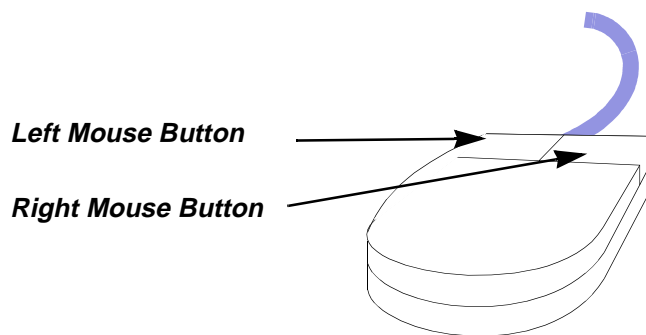


Figure 1-1. Mouse Buttons

For many mouse operations, this document assumes that the left (primary) mouse button is to be used, and references to activating a menu or button will not include instructions about which mouse button to use.

However, in instances in which right (secondary) mouse button functionality is available, instructions will explicitly refer to **right** mouse button usage. Also, in situations where you may be switching between mouse buttons in the same area or window, instructions may also explicitly refer to both **left** and **right** mouse buttons.

Instructions to perform a mouse operation include the following terms:

- **Pointing** means to position the mouse cursor over an area without pressing either mouse button.
- **Clicking** means to position the mouse pointer over the indicated target, then press and release the appropriate mouse button. This is most commonly used to select or activate objects, such as menus or buttons.

- **Double-clicking** means to position the mouse pointer over the indicated target, then press and release the mouse button two times in rapid succession. This is commonly used to activate an object's default operation, such as opening a window from an icon. Note that there is a distinction made between "click twice" and "double-click," since "click twice" implies a slower motion.
- **Pressing** means to position the mouse pointer over the indicated target, then press and hold the mouse button until the described action is completed. It is often a pre-cursor to Drag operations.
- **Dragging** means to move the mouse pointer across the screen while holding the mouse button down. It is often used for drag-and-drop operations to copy information from one window of the screen into another, and to highlight editable text.

Common Gator Module Window Fields

Similar descriptive information is displayed in boxes at the top of most Gator Module windows in NetSight Element Manager, as illustrated in [Figure 1-2](#).

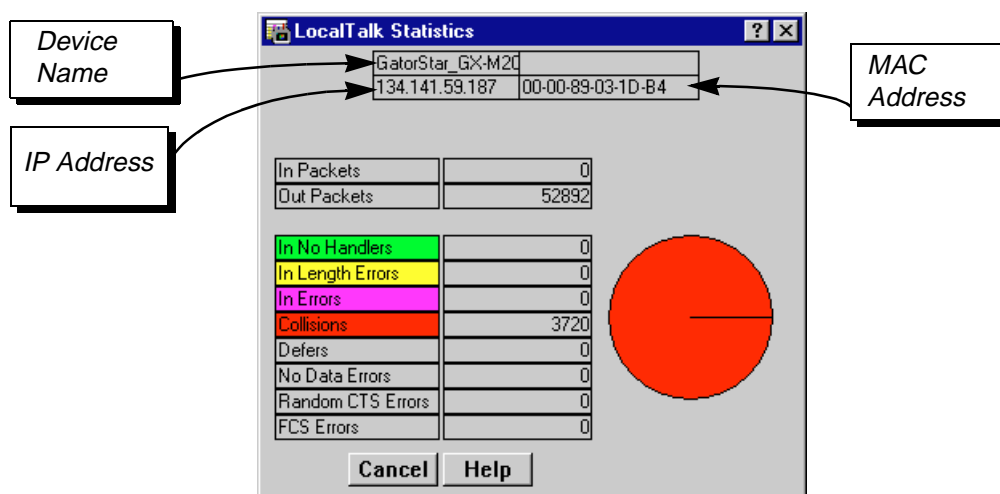


Figure 1-2. Sample Window Showing Informational Boxes

Device Name

Displays the user-defined name of the device. The device name can be changed via the System Group window; see the *Generic SNMP User's Guide* for details.

IP Address

Displays the device's IP (Internet Protocol) Address; this will be the IP address used to define the device icon. IP addresses are assigned via local management for the Gator Modules; they cannot be changed via NetSight Element Manager.

MAC Address

Displays the manufacturer-set MAC address of the device interface. This address is factory-set and cannot be altered.

Using Window Buttons

The **Cancel** button that appears at the bottom of most windows allows you to exit a window and terminate any unsaved changes you have made. You may also have to use this button to close a window after you have made any necessary changes and set them by clicking on an **OK**, **Set**, or **Apply** button.

An **OK**, **Set**, or **Apply** button appears in windows that have configurable values; it allows you to confirm and SET changes you have made to those values. In some windows, you may have to use this button to confirm each individual set; in other windows, you can set several values at once and confirm the sets with one click on the button.

The **Help** button brings up a Help text box with information specific to the current window. For more information concerning Help buttons, see [Getting Help, page 1-5](#).

The command buttons, for example **Bridge**, call up a menu listing the windows, screens, or commands available for that topic.

Any menu topic followed by ... (three dots) — for example **Statistics...** — calls up a window or screen associated with that topic.

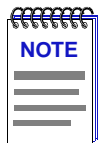
Getting Help

This section describes different methods of getting help for questions or concerns you may have while using NetSight Element Manager.

Using On-Line Help

You can use the Gator Module window **Help** buttons to obtain information specific to the device. When you click on a **Help** button, a window will appear which contains context-sensitive on-screen documentation that will assist you in the use of the windows and their associated command and menu options. Note that if a **Help** button is grayed out, on-line help has not yet been implemented for the associated window.

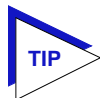
From the **Help** menu accessed from the Module View window menu bar, you can access on-line Help specific to the Module View window, as well as bring up the Chassis Manager window for reference. Refer to [Chapter 2, The Gator Module View](#), for information on the Module View and Chassis Manager windows.



All of the online help windows use the standard Microsoft Windows help facility. If you are unfamiliar with this feature of Windows, you can select **Help** from the Windows **Start** menu, or **Help** —> **How to Use Help** from the primary NetSight Element Manager window.

Accessing On-line Documentation

The complete suite of documents available for NetSight Element Manager can be accessed via a menu option available from the primary window menu bar: **Help**—>**Online Documents**. If you chose to install the documentation when you installed NetSight Element Manager, selecting this option will launch Adobe's Acrobat Reader and a menu file which provides links to all other available documents.



If you have not yet installed the documentation, the **Online Documents** option will not be accessible from the menu file; in order to activate this option, you must run the setup.exe again to install the documentation component. See your **Installation Guide** for details.

Getting Help from the Global Technical Assistance Center

If you need technical support related to NetSight Element Manager, contact the Global Technical Assistance Center via one of the following methods:

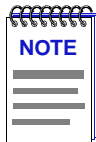
| | |
|-----------------|---|
| By phone: | (603) 332-9400 <i>24 hours a day, 365 days a year</i> |
| By fax: | (603) 337-3075 |
| By mail: | Enterasys Networks Technical Support 35 Industrial Way Rochester, NH 03867 |
| By e-mail: | support@enterasys.com |
| FTP: | ftp.ctron.com (134.141.197.25) |
| <i>Login</i> | anonymous |
| <i>Password</i> | your e-mail address |
| By BBS: | (603) 335-3358 |
| Modem Setting | 8N1: 8 data bits, 1 stop bit, No parity |

Send your questions, comments, and suggestions regarding NetSight documentation to NetSight Technical Communications via the following e-mail address:

Netsight_docs@enterasys.com

To locate product specific information, refer to the Enterasys Web site:

<http://www.enterasys.com>



*For the highest firmware versions successfully tested with NetSight Element Manager 2.2.1, refer to the **Readme** file available from the NetSight Element Manager 2.2.1 program group. If you have an earlier version of firmware and experience problems, contact the Global Technical Assistance Center.*

The Gator Module View

Information displayed in the Module View window; Chassis Manager window; enabling and disabling ports

The Gator Module View window is the main screen that immediately informs you of the current configuration of the ports on your Gator Module. Because the Gator Module functions as a stand-alone IMIM (Intelligent Media Interface Module), other MIMs in the MMAC chassis will not be visible. The default Logical View displays the condition of individual ports on the Gator Module; the Physical View provides a graphical representation of the actual board face. The Module View window serves as a single point of access to all other Gator Module windows, which are discussed at length in the following chapter.

To access the Gator Module View window, use one of the following options:


1. In any map, list, or tree view, double-click the Gator Module icon you wish to manage;



GatorStar_GX-M20421:

Figure 2-1. Gator Module icon

or

1. In any map, list, or tree view, click the Gator Module you wish to manage, and select **Manage**→**Node** from the primary window menu bar, or select the Manage Node  toolbar button.

or

1. In any map, list, or tree view, click the **right** mouse button to select the Gator Module you wish to manage, and on the resulting menu, click **Manage**.

Viewing Device Information

The Gator Module View window (Figure 2-2) provides a graphic representation of the Gator Module, including a color-coded port display which immediately informs you of the current configuration and status of the ports on the module.

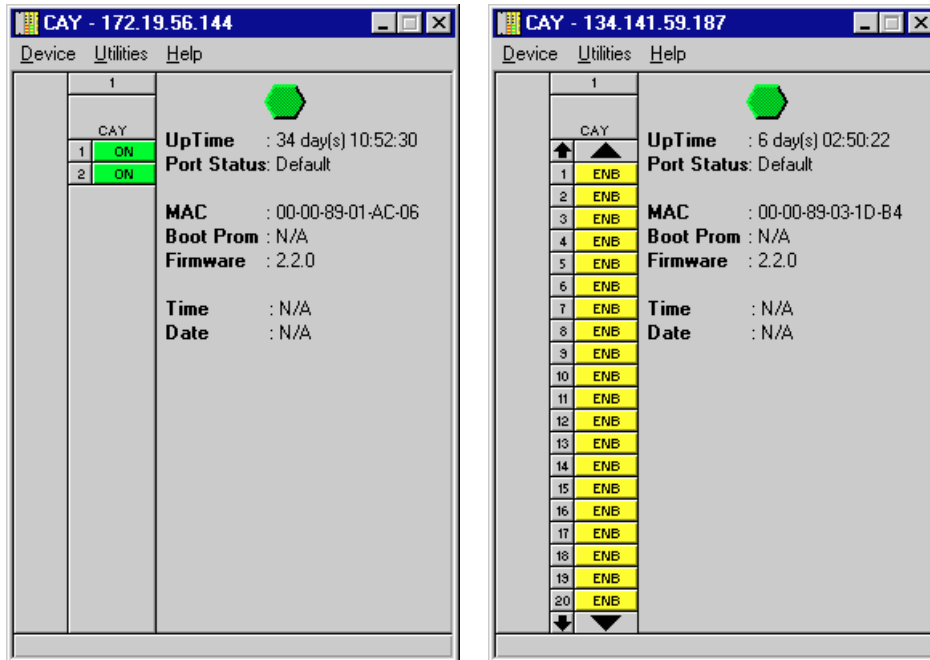
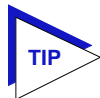
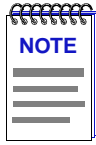


Figure 2-2. Module View Window—GatorStar GX-M and GatorMIM CS

By clicking in designated areas of the graphical display, or by using the menu bar at the top of the Module View window, you can access device-, board-, and port-level information.



When you move the mouse cursor over a management “hot spot” the cursor icon changes into a “hand” (☞) to indicate that clicking in the current location will bring up a management option.



Up to 24 ports can be displayed simultaneously on a module. If a module has a higher port density than 24 ports, Up and Down arrows will appear at the top and bottom of the port stack so that you can scroll through the remaining ports.

Front Panel Information

The section below the main port display provides the following device information:

Connection Status



This color-coded icon indicates the current state of communication between NetSight Element Manager and the Gator Module.

- **Green** indicates the Gator Module is responding to device polls (valid connection).
- **Blue** indicates an unknown contact status — polling has not yet been established with the Gator Module.
- **Red** indicates the Gator Module is not responding to device polls (device is off line, or device polling has failed across the network for some other reason).

UpTime

The amount of time, in a days hh:mm:ss format, that the Gator Module has been running since the last start-up.

Port Status

If management for your device supports a variable port display (see the [Gator Module Port Status Display, page 2-6](#)), this field will show the display currently in effect. If only a single port display is available -- or if the default view is in effect -- this field will state **Default**.

MAC

The physical layer address assigned to the Gator Module's Ethernet interface. MAC addresses are hard-coded in the device, and are not configurable.

Firmware

The revision of device firmware stored in the Gator Module's FLASH PROMs.

Boot Prom, Time, and Date

These fields are not supported.

IP

The Internet Protocol address assigned to the Gator Module is displayed in the title bar; this field will display the IP address you have used to create the Gator Module icon. IP addresses are assigned via Local Management.

Menu Structure

By clicking on various areas of the Gator Module's Module View display, you can access menus with device-, board-, and port-level options, as well as utility applications which apply to the device as a whole. [Figure 2-3](#) displays the menu structure and indicates how to use the mouse to access the various menus.

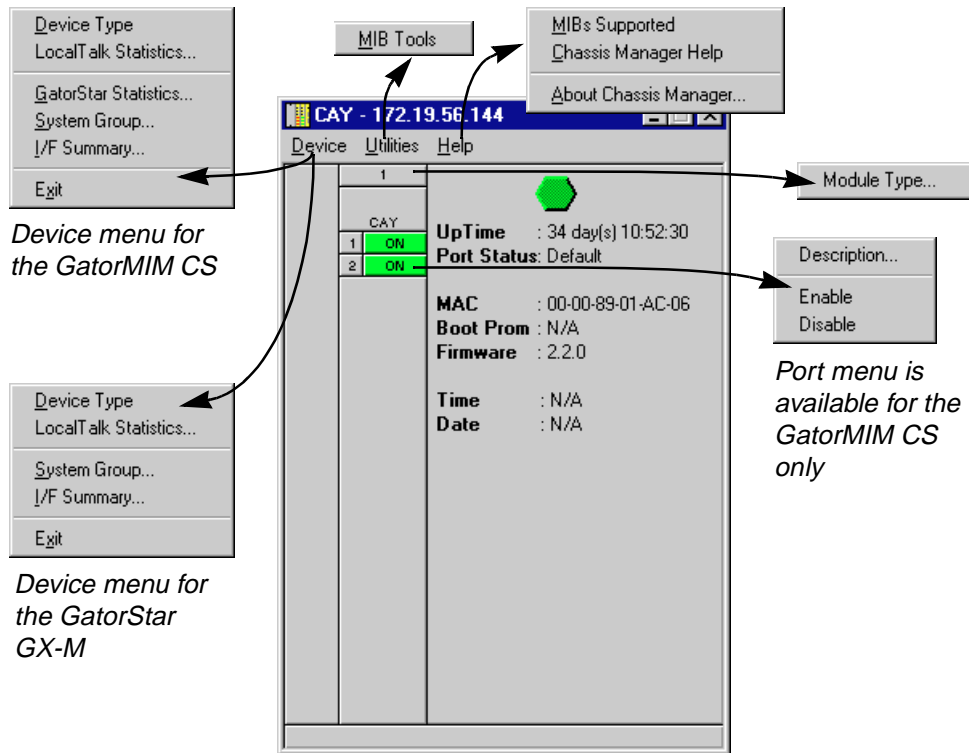


Figure 2-3. Gator Module View Menu Structure

The Device Menu

From the Device Menu at the Module View window menu bar, you can access the following selections:

- **Device Type** displays a description of the device being modeled; see [Viewing the Device Type, page 2-7](#), for details.
- **LocalTalk Statistics** displays packets and errors forwarded across the Gator Module in both numeric and pie chart form; see [LocalTalk and GatorStar Statistics](#), in Chapter 3, for more information.
- **System Group** allows you to manage the Gator Module via SNMP MIB II. Refer to the *Generic SNMP User's Guide* for further information.

- **I/F Summary** displays statistics for the traffic processed by each network interface on your device; see [Viewing I/F Summary Information, page 2-8](#), for details.
- **Exit** closes the Gator Module View window.

In addition to the previously-mentioned selections, the GatorStar GX-M also gives you access to the following selection:

- **GatorStar Statistics** displays total repeater statistics for the GatorStar GX-M in both numeric and pie chart format; see [LocalTalk and GatorStar Statistics](#), in Chapter 3, for more information.

The Utilities Menu

The Utilities Menu has the following selection:

- **MIB Tools** provides direct access to the device's MIB information; refer to the [Tools Guide](#) for a thorough explanation of the MIB Tools utility.

MIB Tools is also available from the **Tools** menu at the top of NetSight Element Manager's primary window.

The Help Menu

The Help Menu has the following three selections:

- **MIBs Supported** opens the Chassis Manager window, see [The Chassis Manager Window, page 2-6](#), for details.
- **Chassis Manager Help** opens a help window with information specifically related to using the Chassis Manager and Module View windows.
- **About Chassis Manager** displays a window with the Chassis Manager version number.

The Board Menus

The Board menu provides access to the following menu selection:

- **Module Type** displays a description of the selected board; see [Viewing the Module Type, page 2-7](#).

The Port Menus

The Port menu is available on the GatorMIM CS only, and has the following selections:

- **Description** displays a description of the interface type; see [Viewing the Port Type, page 2-8](#), for details.
- **Enable/Disable** allows you to enable or disable the selected port; see [Enabling and Disabling Ports, page 2-14](#), for details.

Gator Module Port Status Display

The Port Status display varies for each module type. The status conditions for the GatorMIM CS are:

| | |
|-------------------|---|
| ON (Green) | The port is on-line and forwarding packets across the Gator Module from one network segment to another. |
| OFF (Red) | The port has been disabled by management; no traffic can be received or forwarded on this port. |
| ? (Blue) | The status of ports cannot be determined by the software. |

The status conditions for the GatorStar GX-M are:

| | |
|-----------------------------|---|
| ENB (Yellow/Enabled) | The port is enabled, but not connected to a device; hence, no packets are being forwarded. |
| DIS (Red/Disabled) | The port has been disabled by management; no traffic can be received or forwarded on this port. |
| ? (Blue/Unknown) | The status of ports cannot be determined by the software. |
| NLK (Yellow/No Link) | The port has been disabled automatically because of excessive SWOP, activity, or jabbering. You will be able to re-enable the port when the offending condition no longer exists. |

The Chassis Manager Window

The Chassis Manager window, [Figure 2-4](#), is a read-only window that displays the MIBs and the MIB components — and, therefore, the functionality — supported by the currently monitored device.

1. Select **Help**—>**MIBs Supported** in the menu bar. The Chassis Manager window opens.

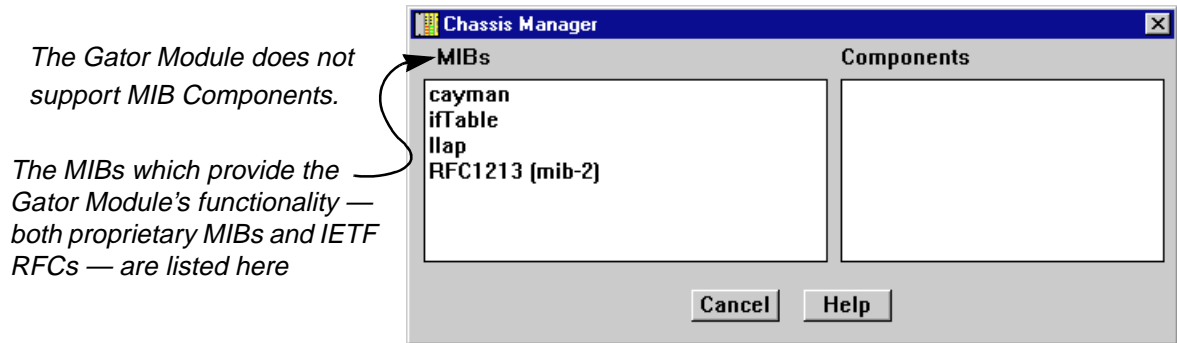


Figure 2-4. Chassis Manager Window

Viewing Hardware Types

Menu options at several levels provide specific information about the physical characteristics of the Gator Module and its ports.

Viewing the Device Type

The **Device Type** displays a description of the device being modeled.

1. Select **Device**→**Device Type** in the Module View menu bar. The Device Type window (Figure 2-5) opens.

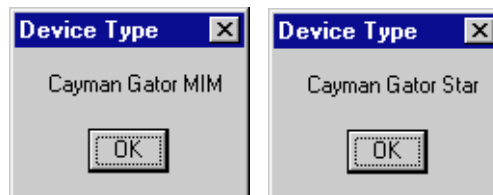


Figure 2-5. Device Type Windows

Viewing the Module Type

From the Board menu on the Gator Module View window, you can view a description of the Gator Module type.

1. Click on the **Board** number to reveal the Board menu.
2. Click on **Module Type**. A Module Type window, similar to the examples shown in Figure 2-6, opens describing the board type.

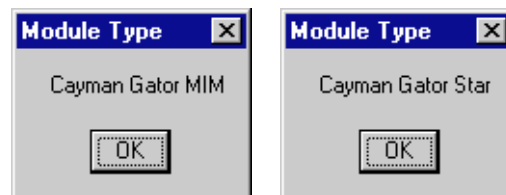


Figure 2-6. Sample Module Type Window

Viewing the Port Type

You can view a brief description of the ports on your Gator MIM CS via the Port menu; this option is not available for Gator Star GX-M ports.

1. Click on the appropriate **Port** to display the Port menu.
2. Click **Description**. The Interface Description window, [Figure 2-7](#), opens.



Figure 2-7. Sample Interface Description Window

Viewing I/F Summary Information

The **I/F Summary** option lets you view statistics for the traffic processed by each network interface on your device. The window also provides access to a detailed statistics window that breaks down Transmit and Receive traffic for each interface.

To access the I/F Summary window:

1. Select **Device—>I/F Summary** on the Module View menu bar. The I/F Summary window, [Figure 2-8](#), opens.

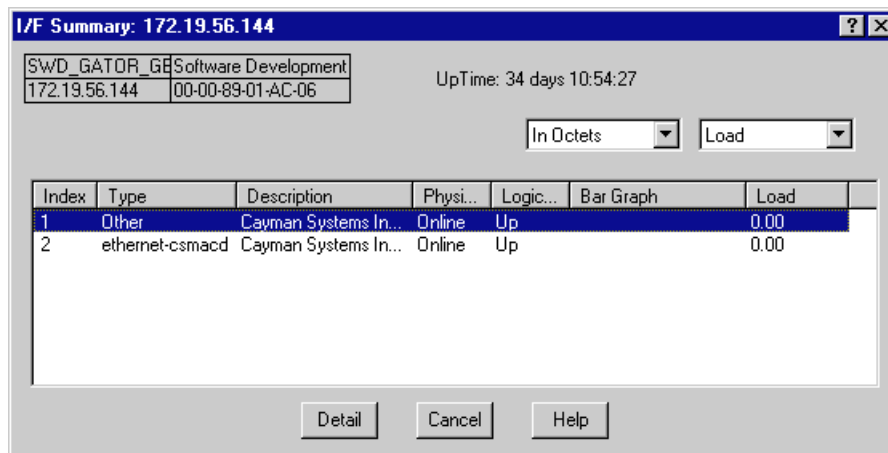


Figure 2-8. I/F Summary Window

The I/F Summary window provides a variety of descriptive information about each interface on your device, as well as statistics which display each interface's performance.

Index

The index value assigned to each interface on the device.

Type

The type of the interface, distinguished by the physical/link protocol(s) running immediately below the network layer (e.g., ethernet-csmacd).

Description

A text description of the interface.

Physical Status

Displays the current physical status — or operational state — of the interface: **Online** or **Offline**.

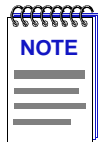
Logical Status

Displays the current logical status — or administrative state — of the interface: **Up** or **Down**.

Interface Performance Statistics/Bar Graphs

The statistical values (and, where available, the accompanying bar graphs) to the right of the interface description fields provide a quick summary of interface performance. You can select the statistical value you want to display and the units in which you want those values displayed by using the two menu fields directly above the interface display area, as follows:

1. In the right-most menu field, click to select the unit in which you wish to display the selected statistic: **Load**, **Raw Counts**, or **Rate**.



*Bar graphs are only available when **Load** is the selected base unit; if you select **Raw Counts** or **Rate**, the Bar Graph column will be removed from the interface display.*

2. Once you have selected the base unit, click in the left-most field to specify the statistic you would like to display. Note that the options available from this menu will vary depending on the base unit you have selected.

After you select a new display mode, the statistics (and graphs, where applicable) will refresh to reflect the current choice, as described below.

Raw Counts

The total count of network traffic received or transmitted on the indicated interface since device counters were last reset. Raw counts are provided for the following parameters:

| | |
|--------------|--|
| In Octets | Octets received on the interface, including framing characters. |
| In Packets | Packets (both unicast and non-unicast) received by the device interface and delivered to a higher-layer protocol. |
| In Discards | Packets received by the device interface that were discarded even though no errors prevented them from being delivered to a higher layer protocol (e.g., to free up buffer space in the device). |
| In Errors | Packets received by the device interface that contained errors that prevented them from being delivered to a higher-layer protocol. |
| In Unknown | Packets received by the device interface that were discarded because of an unknown or unsupported protocol. |
| Out Octets | Octets transmitted by the interface, including framing characters. |
| Out Packets | Packets transmitted, at the request of a higher level protocol, by the device interface to a subnetwork address (both unicast and non-unicast). |
| Out Discards | Outbound packets that were discarded by the device interface even though no errors were detected that would prevent them from being transmitted. A possible reason for discard would be to free up buffer space in the device. |

Out Errors Outbound packets that could not be transmitted by the device interface because they contained errors.

Load

The number of bytes processed by the indicated interface during the last poll interval in comparison to the theoretical maximum load for that interface type (10 Mbps for standard Ethernet). Load is further defined by the following parameters:

In Octets The number of bytes received by this interface, expressed as a percentage of the theoretical maximum load.

Out Octets The number of bytes transmitted by this interface, expressed as a percentage of the theoretical maximum load.

When you select this option, a Bar Graph field will be added to the interface display area; this field is only available when **Load** is the selected base unit.

Rate

The count for the selected statistic during the last poll interval. The available parameters are the same as those provided for Raw Counts. Refer to the **Raw Counts** section, [page 2-10](#), for a complete description of each parameter.

Viewing Interface Detail

The I/F Statistics window provides detailed statistical information — counts for both transmit and receive packets, and error and buffering information — for each individual interface. Color-coded pie charts also let you graphically view statistics for both received and transmitted Unicast, Multicast, Discarded, and Error packets.

To open the Interface Statistics window:

1. In the I/F Summary window, click to select the interface for which you would like to view more detailed statistics.
2. Click **Detail**. The appropriate I/F Statistics window, [Figure 2-9](#), opens.

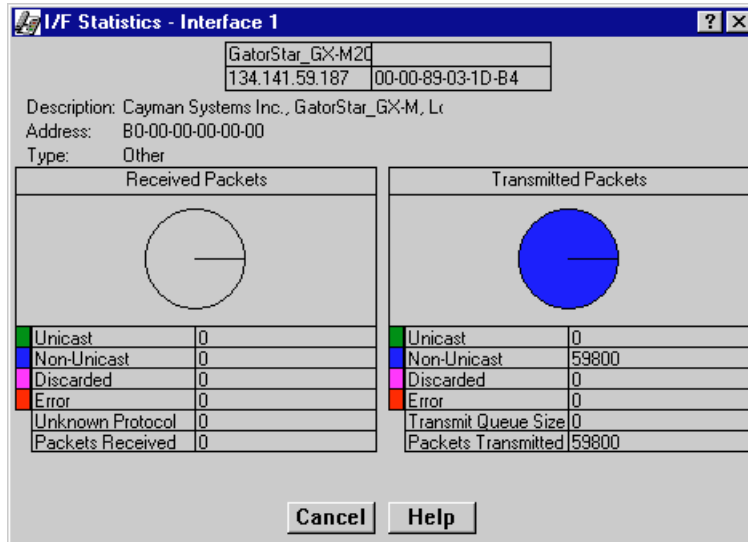


Figure 2-9. Interface Detail Window

Three informational fields appear in the upper portion of the window:

Description

Displays the interface description for the currently selected interface.

Address

Displays the MAC (physical) address of the selected interface.

Type

Displays the interface type of the selected port (e.g., ethernet-csmacd).

The lower portion of the window provides the following transmit and receive statistics. The first four statistics are also graphically displayed in the pie charts.

Unicast

Displays the number of packets transmitted to or received from this interface that had a single, unique destination address. These statistics are displayed in the pie chart, color-coded green.

Non-Unicast

Displays the number of packets transmitted to or received from this interface that had a destination address that is recognized by more than one device on the network segment. The multicast field includes a count of broadcast packets — those that are recognized by *all* devices on a segment. These statistics are displayed in the pie chart, color-coded dark blue.

Discarded

Displays the number of packets which were discarded even though they contained no errors that would prevent transmission. Good packets are typically discarded to free up buffer space when the network becomes very busy; if this is occurring routinely, it usually means that network traffic is overwhelming the device. To solve this problem, you may need to re-configure your bridging parameters, or perhaps re-configure your network to add additional bridges or switches.

These statistics are displayed in the pie chart, color-coded magenta.

Error

Displays the number of packets received or transmitted that contained errors. These statistics are displayed in the pie chart, color-coded red.

Unknown Protocol *(Received only)*

Displays the number of packets received which were discarded because they were created under an unknown or unsupported protocol.

Packets Received *(Received only)*

Displays the number of packets received by the selected interface.

Transmit Queue Size *(Transmit only)*

Displays the number of packets currently queued for transmission from this interface. The amount of device memory devoted to buffer space, and the traffic level on the target network, determine how large the output packet queue can grow before the MRXI will begin to discard packets.

Packets Transmitted *(Transmit only)*

Displays the number of packets transmitted by this interface.

Making Sense of Detail Statistics

By using a few simple calculations, the I/F Statistics window can give you an idea of the interface's activity level and how the interface is performing .

To calculate the percentage of input errors:

$$\text{Received Errors} / \text{Packets Received}$$

To calculate the percentage of output errors:

$$\text{Transmitted Errors} / \text{Packets Transmitted}$$

To calculate the total number of inbound and outbound discards:

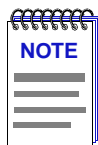
$$\text{Received Discards} + \text{Transmitted Discards}$$

To calculate the percentage of inbound packets that were discarded:

$$\text{Received Discards} / \text{Packets Received}$$

To calculate the percentage of outbound packets that were discarded:

$\text{Transmit Discards} / \text{Packets Transmitted}$



*The Interface Statistics window does not offer **Disable** or **Test** options. These options are available in the Interface Group window, which can be accessed via the System Group window (select **System Group** from the **Device** menu). Refer to your **Generic SNMP User's Guide** for more information on the System Group and Interface Group windows.*

Enabling and Disabling Ports

From the Port menus on the GatorMIM CS Module, you can enable and disable any individual ports.

To enable or disable a port:

1. Click on the desired **Port** to display the Port menu.
2. Click **Enable** to enable the port, or **Disable** to disable the port. Your port will now be enabled or disabled as desired.

LocalTalk and GatorStar Statistics

LocalTalk Statistics window; Total Repeater Statistics window

Viewing LocalTalk Statistics

The LocalTalk Statistics window (Figure 3-1) displays accumulated statistics and error breakdowns at the device level for the LocalTalk side of the Gator module. Statistics are displayed in numeric form and in graphic form as a pie chart.

1. Select **Device**—>**LocalTalk Statistics** in the Module View menu bar. The LocalTalk Statistics window, as shown in, Figure 3-1, opens.

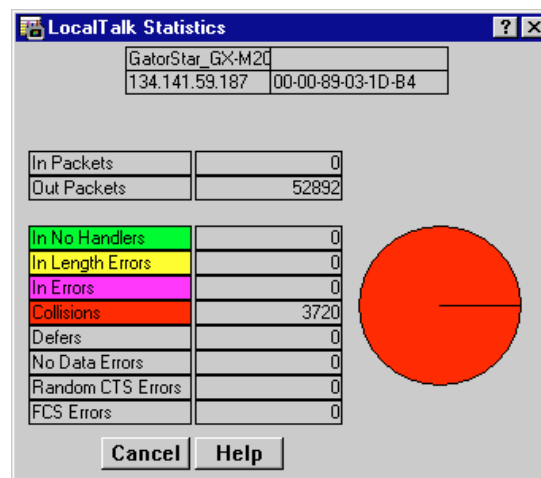


Figure 3-1. LocalTalk Statistics

The following packet and error statistics appear within the LocalTalk Statistics window:

Packets Fields

The Packet Fields display general performance information on the LocalTalk interface are as follows:

In Packets The total number of good packets received by the LocalTalk interface.

Out Packets The total number of packets transmitted from the LocalTalk interface.

Hard Errors

Hard errors are error conditions caused by physical layer problems, such as faults in the hardware, equipment, or wiring. Hard error fields are as follows:

In Errors The total number of packets containing errors received on the LocalTalk interface. In Errors are color-coded magenta.

Collisions The total number of collisions assumed on the LocalTalk interface due to the lack of a lapCTS (link access protocol Clear To Send) reply. Collisions are color-coded red.

Soft Errors

Soft errors are error conditions caused by corrupted data signals, such as failure along the transmission path. Soft error fields are as follows:

In No Handlers The total number of good packets received on the LocalTalk interface for which there was no protocol handler. In No Handlers are color-coded green.

In Length Errors The total number of packets received on the LocalTalk interface in which the actual packet length did not match the length specified in the header. In Length Errors are color-coded yellow.

Defers The total number of times the LocalTalk interface deferred to other packets (postponed sending a packet until after packets from other ports had already been sent). This usually indicates that the network was busy when the port wanted to send data. The link has to be idle for at least 400 microseconds before it will start to transmit.

No Data Errors The total number of times the LocalTalk interface received a lapRTS (link access protocol Request To Send) packet and expected a data packet, but did not receive any data packets.

| | |
|-------------------|---|
| Random CTS Errors | The total number of times the LocalTalk interface received a lapCTS packet that was not solicited by a lapRTS packet. |
| FCS Errors | The total number of times the LocalTalk interface received a packet with an FCS (Frame Check Sequence) error. When a packet is transmitted, the MAC layer of the transmitting device computes an FCS value based on the contents of the packet, and appends that value to the packet. The receiving station performs the same computation. If the FCS values differ, the packet is assumed to be corrupted. |

Gator Total Repeater Statistics

The Gator Total Repeater Statistics window displays the total number of repeater statistics and error breakdowns at the device level for the GatorStar GX-M only. The pie chart to the right of the statistics text boxes allows you to graphically view the statistics.

By using the **Total** and **Delta** option buttons, you can change the time period during which statistical data is collected. **Total** gathers data from the device and updates it at each subsequent polling interval. After the completion of the current polling cycle plus one complete polling cycle, the window will display the sum of statistics processed since the device was last restarted. **Delta** gathers data during the last polling interval (after the completion of the current polling cycle plus two more polling cycles). These counts are refreshed after each polling cycle.

1. Select **Device**—>**GatorStar Statistics** in the Module View menu bar. The Gator Total Repeater Statistics window, [Figure 3-2](#), opens.

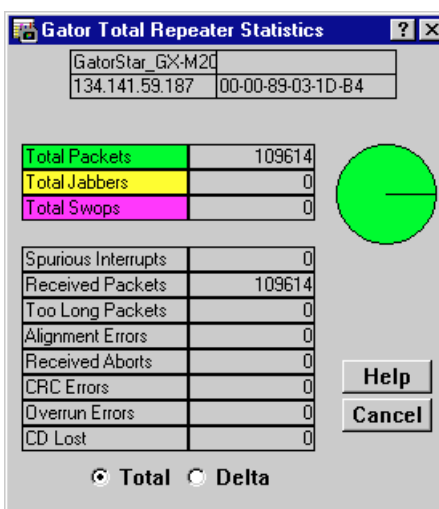


Figure 3-2. Gator Total Repeater Statistics Window

The following fields appear within the Gator Total Repeater Statistics window:

Packets Fields

Total Packets The total number of packets processed by the device since the last reset. Total Packets are color-coded green.

Error Fields

Total Jabbers The total number of packets since the last reset that were oversized (greater than 1518 bytes — a Giant packet), and had either a non-integral number of bytes (alignment error) or a bad frame check sequence (CRC error). Total Jabbers are color-coded yellow.

Total Swops The total number of SWOP (Sync Without Packet) conditions since the last reset. Total Swops are color-coded magenta.

Spurious Interrupts The total number of spurious (invalid) interrupts on the device since the last reset.

Received Packets The total number of good packets received with no errors since the last reset.

Too Long Packets The total number of packets greater than the maximum allowable number seen on the device since the last reset.

Alignment Errors The total number of misaligned packets seen on the device since the last reset. A misaligned packet is one that does not contain an integral number of bytes.

Received Aborts The number of packets that were aborted during the receive process since the last reset.

CRC Errors The total number of packets with CRC (Cyclical Redundancy Check) errors seen on the device since the last reset. CRC errors occur when the element responsible for either the transmit or receive CRC calculation is malfunctioning, which causes good packets to be discarded as errors.

Overrun Errors The total number of overrun conditions seen on the device since the last reset. An overrun occurs when the processor cannot keep up with the inbound byte stream.

CD Lost The total number of CD Lost (Carrier Detect Lost) errors seen on the device since the last reset.

A

Alignment Errors 3-4

B

Board Menus 2-5

Boot Prom
 revision 2-3

Buffer space 2-13

C

Cancel button 1-5

Carrier Detect Lost 3-4

CD Lost 3-4

Clear to send 3-2

Collisions 3-2

Color-coded port display 2-2

Command buttons 1-5

Connection Status 2-3

CRC Errors 3-4

D

Defers 3-2

Delta 3-3

Device 1-4

Device Menu 2-4

Device name 1-4

Device Type 2-4, 2-7

Disabling a port 2-14

Discarded packets 2-13

E

Enabling a port 2-14

Exit 2-5

F

FCS Errors 3-3

firmware versions 1-7

G

GatorMIM CS 1-1

GatorStar GX-M 1-1

GatorStar Statistics 2-5

Global Technical Assistance Center 1-6

H

Help button 1-5

Help Menu 2-5

I

I/F Summary window 2-9

 interface description fields 2-9

 interface performance statistics 2-9

In Errors 3-2

In Length Errors 3-2

In No Handlers 3-2

In Packets 3-2

Interface Group window 2-11

IP address 1-4, 2-3

L

Load 2-11

LocalTalk Statistics 2-4

Logical Status 2-9

M

MAC address 1-5, 2-3

Menu structure 2-4

Mouse usage 1-3

Multicast (Non-Unicast) 2-12

N

No Data Errors 3-2

Non-Unicast (Multicast) 2-12

O

OK button 1-5
Out Packets 3-2
Overrun Errors 3-4

P

Packets Received 2-13
Packets Transmitted 2-13
Physical Status 2-9
Port display
 color codes 2-2
Port Menus 2-5
Port type 2-8

R

Random CTS Errors 3-3
Rate 2-11
Raw Counts 2-10
Readme 1-7
Received Aborts 3-4
Received Packets 3-4
Request to send 3-2

S

Set button 1-5
Soft Errors 3-2
Spurious Interrupts 3-4
Status conditions 2-6
Sync without packet 3-4
System Group 2-4

T

Technical support 1-6
Too Long Packets 3-4
Total 3-3
Total Jabbers 3-4
Total Packets 3-4
Total Repeater Statistics 3-3
Total Swops 3-4
Transmit Queue Size 2-13

U

Unicast 2-12
Unknown Protocol 2-13
UpTime 2-3
Utilities Menu 2-5

V

View 2-1